

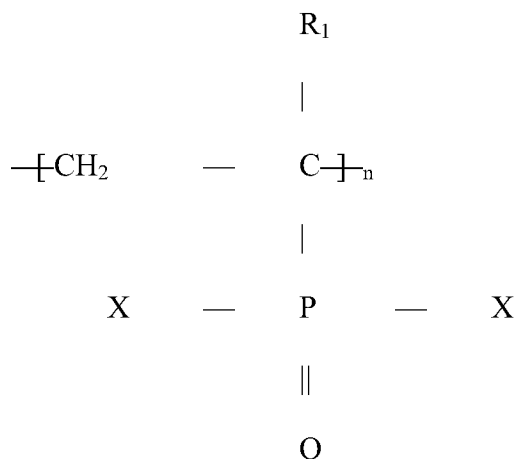
**AMENDMENTS TO THE SPECIFICATION: SUBSTITUTE PARAGRAPHS**

Please replace Paragraphs [0022], [0030], [0057] and [0058] with the following marked-up substitute paragraphs:

**[0022]** Polymer segment F of Formula I, when present, is the repeat unit formed after polymerization of one or more non-phosphonate containing monomers. Exemplary monomers encompassed by ~~B~~ F include, but are not limited to, carboxylic acid monomers such as (meth)acrylic acid, maleic acid, itaconic acid, acrylamidoglycolic acid; sulfonic acid monomers such as 2-(meth)acrylamido-2-methylpropylsulfonic acid, 3-(meth)acrylamido-2-hydroxypropylsulfonic acid, 3-allyloxy-2-hydroxypropyl-sulfonic acid, vinylsulfonic acid, vinylbenzylsulfonic acid, and allyloxybenzylsulfonic acid; non-ionic monomers such as (meth)acrylamide, *t*-butylacrylamide, vinyl acetate, 1-allyloxy-2,3-propanediol, hydroxypolyethoxy(10) allyl ether; sulfate and phosphate ester analogs of hydroxy containing monomers such as allylpolyethoxy(10) sulfate; mixtures of any of the foregoing and the like.

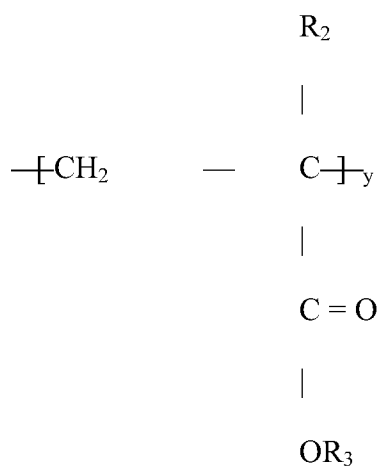
**[0030]** The optimal molecular weight of the water-soluble polymeric phosphonate (I) of the present invention will be dependent on factors including its composition. In general, it is known to those skilled in the art that polymers effective in inhibiting scale formation in aqueous systems may fall within the range Mw of about 500 to ~~100,000~~ 100,000. Preferably the Mw ranges from about 500 to 50,000 and most preferably from about 500 to 25,000. The essential criterion is that the polymer is water-soluble.

[0057] In another embodiment of the invention, the phosphonate polymer (I) includes a repeat unit B of the structure



wherein  $R_1$  is H, or lower alkyl of from 1 to 6 carbon atoms and wherein X is OH or OM wherein M is a cation. The value of n is selected such that the Mw of the polymer ranges from about 500 to 50,000. Preferably, I is poly(isopropenyl phosphonic acid) or poly(vinyl phosphonic acid).

[0058] The phosphonate polymer (I) can also comprise a repeat unit F of the structure



wherein  $R_2$  is H or  $CH_3$ , and  $R_3$  is H or a cation. As noted above, the molar ratio of repeat units B:F may fall within the range of 100:0 to 5:95, so that the number ratio of n:y may also fall within the range of 100:0 to 5:95. The values of y and n are selected such that the Mw of the polymer ranges from about 500 to 50,000. Repeat units formed via polymerization of acrylic acid or methacrylic acid monomers are preferred.